Project Plan

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Team //TODO
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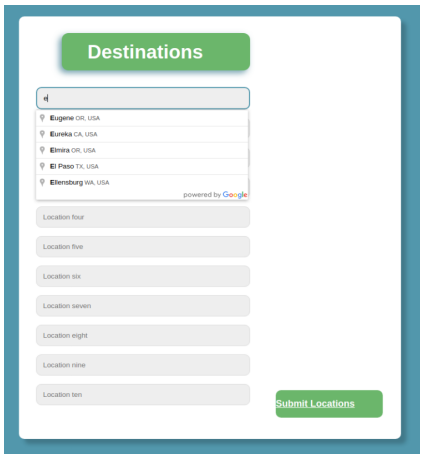
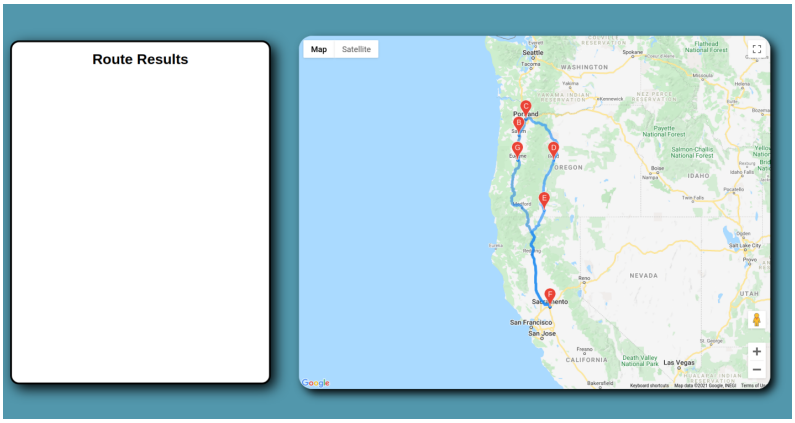
Created: October 29, 2021 Last Update: Nov. 2, 2021

Traveler Web-application

Now more than ever, delivery companies are becoming more stressed trying to keep up with the influx of online orders that COVID-19 has brought. With more people too scared to go out, online orders and demand for shipping is at all time highs. It is really difficult for small companies to find good technology services to help them optimize their delivery routes. Our website, Traveler, is the easiest and currently most affordable application that companies can use to calculate the best route for their deliveries that takes the least amount of time. Our program is the key to relieving their ever increasing stress.





Management Plan:

We organized our project by separating it into 4 different components: The server/database side and the client side. Each team member was assigned to handle the components in which they were most comfortable with. Everyone had a unique skill set so it was easy to divide up the parts between members. Our architecture is as follows:

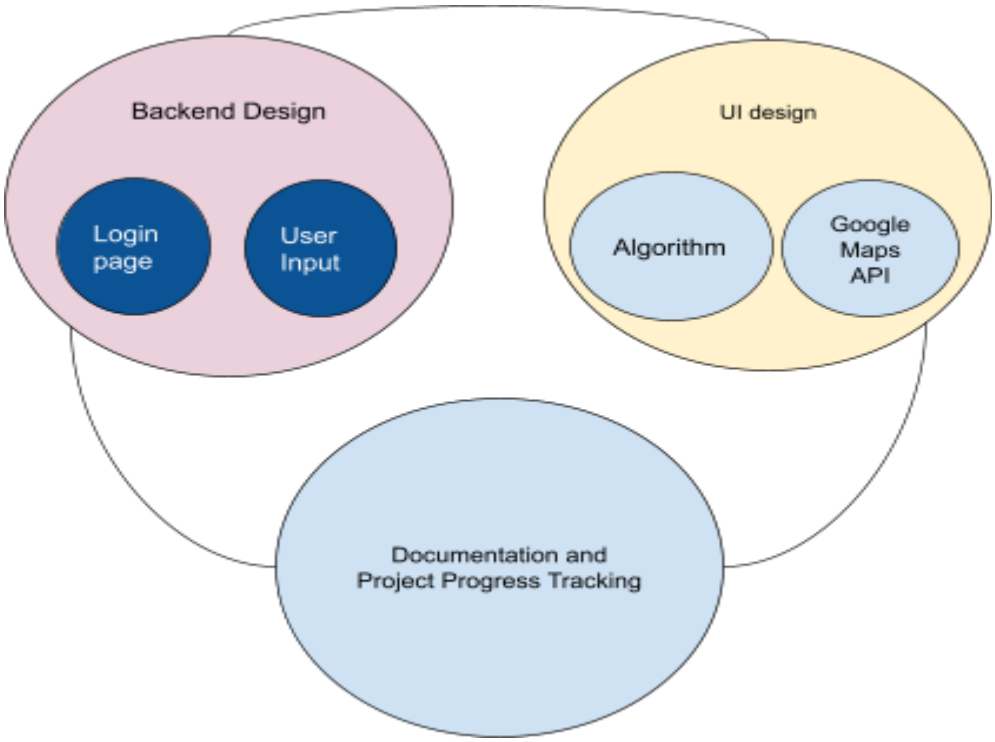
- Server side (what the programer sees)
    - Database
    - Algorithm files
    - Existing user profiles
    - Starting and destination addresses
    - Project file host
    - Front and backend development servers
- Client side (what the user sees)
    - Inropage
    - Log In/Sign-up
    - Address Input (Main Page)
    - Results Page

We used Trello to track our progress and keep track of all of the components we needed to complete. This way we could see what we needed to implement, what was done, and what needed review. We hosted all of our files in a github repo in order to be able to work on all of the parts together and always have updated versions of the program files

Team Organization/Communication:

We were organized in a democratic style with a slight agile manifesto component. With a democratic style, we were able to bounce ideas off of eachother, take on tasks we were most comfortable with, and deal with disagreements in a way where everyone was somewhat satisfied. In a team setting, having a voice and ability to have your problems addressed and solved democratically overall increases team satisfaction.
We communicated over discord and held weekly meetings to briefly talk about progress and clearly define what was left to be done. During the week if there was any confusion over certain parts, we would ask for help over our discord channel and would solve problems that way. We communicated frequently and were actively collaborating and solving problems together.
Roles:

- Backend Design:
    - We assigned the majority of backend development to Jordan, who worked on making sure the front end requests were handled and delivered. Thomas created the algorithm for the program and Jordan integrated it into the backend. We had to make sure that the algorithm accepted all of the points and was able to calculate the optimal route between the points. Evan created the login and sign up page. He worked on integrating that page with the backend and gathering the user data to store in a secure database.
- UI Design:
    - We assigned the UI development to Tammas. He created the webpages and also worked on integrating the google maps API. He also integrated Google's API autocomplete feature. He set up the git hub and worked on merging branches and setting up the project for deployment. He got it hosted on digital ocean instead of github pages so that the API key was not published and it gave us a working website link.
- Documentation and Project Organization
    - Aliya was assigned team lead and documentation specialist. She needed to know how every component works and fits together in order to develop adequate presentations, documentation, and be able to make sure everyone was on track. She helped on different parts when needed, like the front page design. Evan worked on the project timeline. All members reviewed final documentation.



Project Timeline

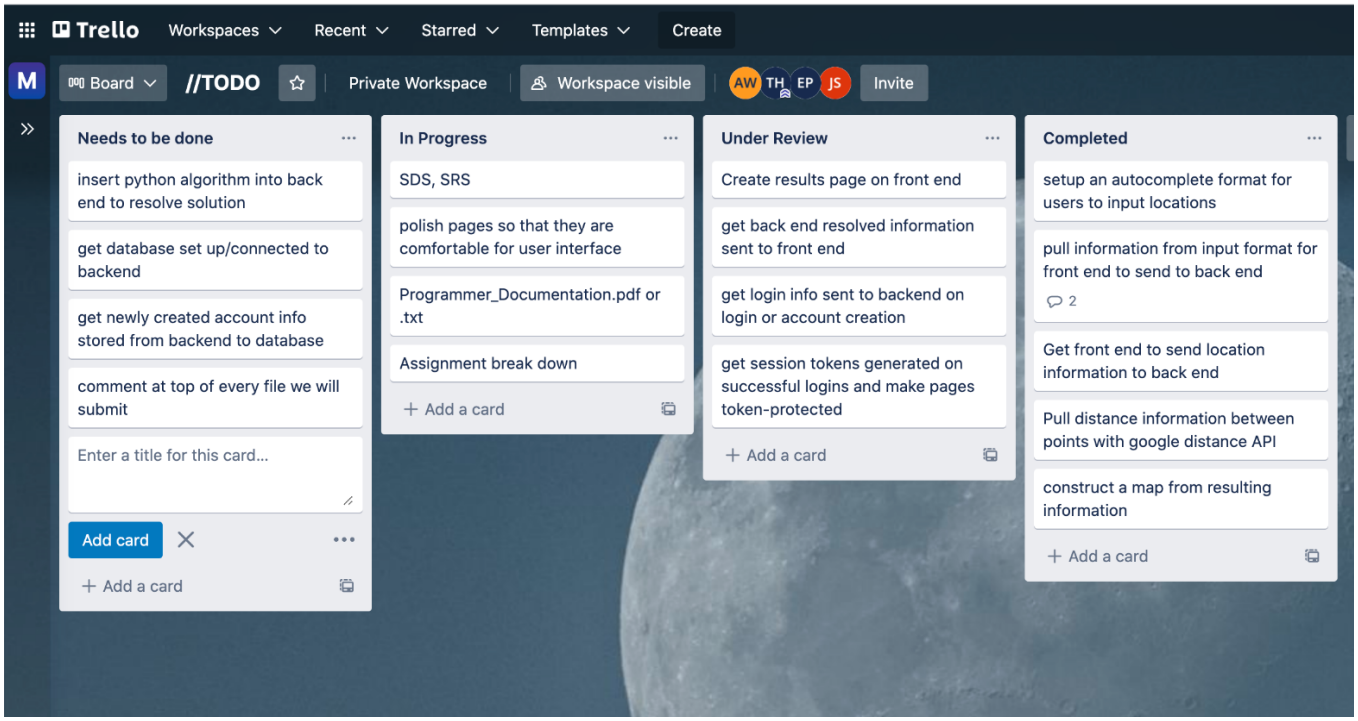
	Tasks and Assignment Breakdown					
	Group:	//TODO				
	Team Members (and initials):	, Evan Pariser, Jordan Smith, Aliya Ware				
	Date this was last updated:	11/1/21	11/2/21			
	Last updated by (whom):	Evan	Aliya			
Week #	**Task or Milestone (with an objectively verifiable completion)**	**Status**	**Completed by**	**Date Completed**	**Time Spent (hours)**	**Notes**
Week 1						
	establish dicord comminication and ticketing system on Trello.	completed	Tammas	10/1/21	30m	
	set up front end	completed	Tammas	10/3/21	2h	
	create basic structure	completed			30m	completed in meeting
	Group meeting	completed	all	10/3/21	30m	established roles
Week 2						
	establish comunication between react and flask and create server files	completed	Jordan/ Tammas	10/5/21	4h	
	begin work on SRS	Progress...	Aliya	10/8/21	30m	
	add images to repo	completed	Aliya	10/8/21	10m	
	Finished front page	completed	Aliya	10/8/21	1h	
	create prim's algorithm in python for distance	completed	Jordan		2h	
Week 3						changed Evan's role from imput output to login/signup page
	backend succesfully receive post requests	completed	Jordan	10/11/21	4h	
	Group meeting	completed	All	10/11/21	30m	
	Pull distance information between points with google	completed	Jordan	10/12/21	3h	
	Built prim's algo (may need edits)	completed	Thomas	10/12/21	3h	
	Adding prim's algo in for testing	completed	Thomas	10/12/21	40m	
	render map and directions	completed	Tamas	10/17/21	2h	
	create login signup page	completed	Evan	10/19/21	5h	
	set up auto complete	completed	Tammas	10/19/21	1h	
	proccess adress list to order adresses correctly	completed	Jordan	10/19/21	1h 30m	
	get multiple location imputs	completed	Tammas	10/20/21	2h	
Week 4						
	Team Meeting	completed	All	10/20/21	1h	Went over last couple of things that we needed to implement
	add methods for account creation	completed	Tammas	10/20/21	40m	
	establish session token generation for session management	completed	Jordan	10/23/21	30m	
	finish up post methods	completed	Jordan	10/24/21	2h	
	Prepare project presentation	Progress...	Aliya	10/24/21	2h	
	algorithm needs to take a matrix of points	completed	Thomas	10/25/21	3h	
	Completed Presentation	completed	Aliya	10/25/21	1h	
	work on testing algorithm and site	Continuing	Thomas	Continuous		
Week 5						
	Host the website on digital ocean	completed	Tammas	10/27/21	2h	
	work out newfound bugs	completed	Tammas	10/29/21	1h	
	make sure all files are commented appropriately	completed	Thomas	10/29/21	2h	
	Reworked Prim's	completed	Thomas	10/31/21	4h	
	finish up documentation files	completed	Aliya	11/1/21	2h	
	Prepare project for submission	Progress	All	11/2/21	2h each	

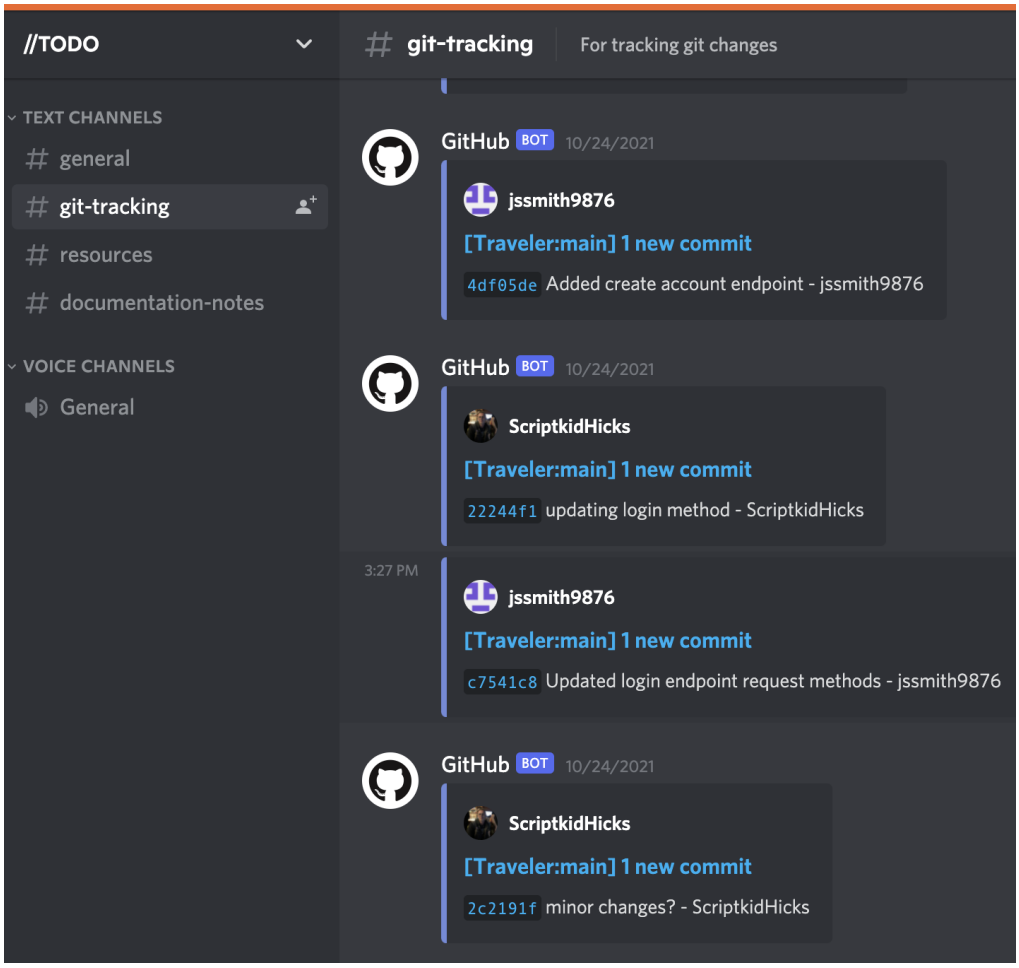
Building Plan

Team members were assigned to modules, and completed their module tasks within the week we planned to do them. Our first meeting was in person, where we briefly went over what we want the project to look like, what everyones strong suits were and establishing roles. We also bounced ideas back and forth involving what language we were going to use to develop the front and back end as well as to what extent we were going to implement the google maps API. After that, we created a github and each of us had our own branch from which we worked on our own assigned part of the project. When we needed to test our module, we would merge to the main branch and test front and backend together. We frequently discussed our progress as well as worked out issues we faced during development over discord. Then, we planned that once we had the modules working together properly, we would work on continuously debugging and testing the program. We will discuss frequently where we are at with each of our components to ensure sufficient progress is being made. Our final stage will involve hosting the final product on digital ocean, making it an official website.

Monitoring and Reporting:

The way we will be monitoring and reporting will be through discord and a project management tool: trello. On discord we will be keeping track of our github commits and we will also be consistently communicating over the chat channel. Our timeline and progress was tracked through trello.





Rationale:

We broke our project up this way in order to ensure easy software development on our part and give the user a simple and intuitive website to use. One challenge we may face with developing the algorithm is the issue of backtracking. We will need to test the algorithm and modify it to not backtrack. Another challenge will be integrating the Google API. Its documentation is out of date and it will need to be adjusted to work with our updated system. Our last challenge will be getting Flask and React working together. We will have to make calls between front and backend using a UI link and will have to meet consistently throughout the first week to make sure that we get them working together. We have separated all of our components, specifically the main page and results page, so that it is easier for us to take the data points and render them on the map all at once rather than one at a time. This also makes it easier for the user to see the list of points that they are entering and then see the map which contains those points. We are going to consistently meet and chat in order to stay on track and get everything working by the deadline.